



***GLOBAL  
POSITIONING  
SYSTEM (GPS)  
CONSTELLATION  
STATUS  
March 1999***

**Captain Zannis Pappas  
HQ Air Force Space  
Command**

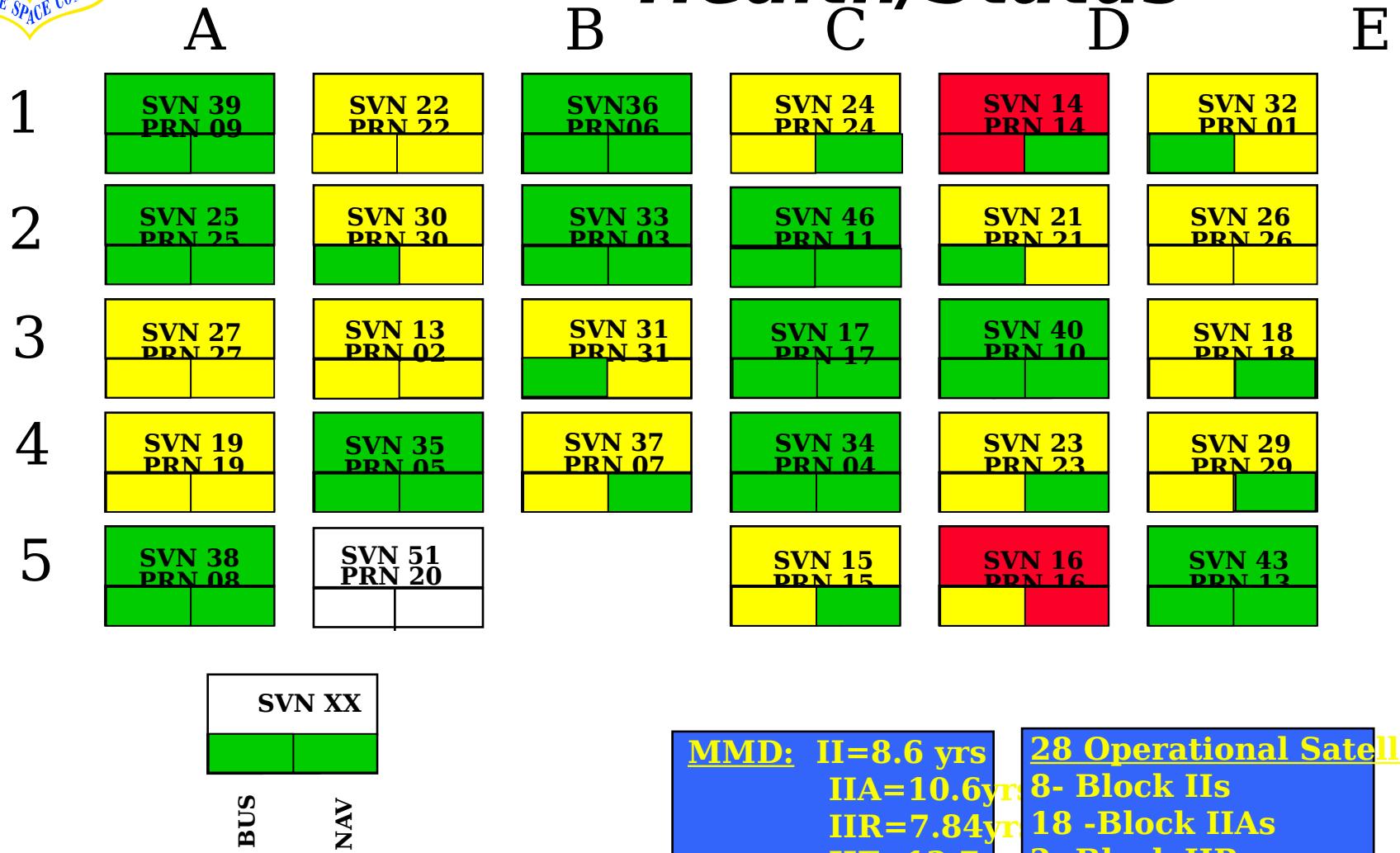


# Overview

- GPS Constellation Health/Status
- Proposed National Launch Forecast (NLF)
- Current Transition Plan
- Summary



# Constellation Health/Status





# Navigation Signal Availability

	A	B	C	D	E	
1	SVN 39 PRN 09	SVN 22 PRN 22	SVN 36 PRN 06	SVN 24 PRN 24	SVN 14 PRN 14	SVN 32 PRN 01
2	SVN 25 PRN 25	SVN 30 PRN 30	SVN 33 PRN 03	SVN 46 PRN 11	SVN 21 PRN 21	SVN 26 PRN 26
3	SVN 27 PRN 27	SVN 13 PRN 02	SVN 31 PRN 31	SVN 17 PRN 17	SVN 40 PRN 10	SVN 18 PRN 18
4	SVN 19 PRN 19	SVN 35 PRN 05	SVN 37 PRN 07	SVN 34 PRN 04	SVN 23 PRN 23	SVN 29 PRN 29
5	SVN 38 PRN 08	SVN 51 PRN 20		SVN 15 PRN 15	SVN 16 PRN 16	SVN 43 PRN 13

MMD: II=8.6 yrs   28 Operational Satellites  
IIA=10.6 yrs 8- Block IIs  
IIR=7.84 yrs 18 -Block IIAs  
IIF=12.7 yrs 2- Block IIRs



# *Proposed National Launch Forecast*

- **NLF recently updated to reflect current Modernization Alternative**
- **Proposed Launches**
  - FY 00: 2 IIR (21 Apr, 15 Jun)
  - FY 01: 2 IIR (15 Feb, Jun)
  - FY 02: 2 IIR (Oct, Jan)
  - FY 03: 4 IIR Modified\*
  - FY 04: 4 IIR Modified
  - FY 05: 2 IIR Modified, 1 IIF \*\*
  - FY 06: 2 IIR Modified, 1 IIF
- **NLF awaiting HQ AFSPC/DO approval**

\* IIR Modified: Current capabilities + 2nd civil frequency (L2) + M-Code

\*\* IIF: IIR Modified capabilities + 3rd civil frequency (L5)



# *Current Transition Plan*

- Upgrade Dedicated Monitor Stations and Ground Antennas with New Digital Receivers and Computers
- Replace Existing Master Control Station Mainframe Computer With a Distributed Architecture
- Add Accuracy Improvement Initiative, Air Force Satellite Control Network, and Full IIR Capabilities
- Build Fully Mission Capable Alternate Master Control Station (AMCS) at Vandenberg Tracking Station
- Add IIF Command and Control Functionality

**2-Step Plan: Replace Existing Mainframe With Distributed Architecture Then Add Block IIF Functionality**



# Summary

- **GPS is an aging Constellation**
- **GPS Constellation produces a Healthy Navigation Signal**
  - 28 Operational Satellites
- **Scheduled upgrades will improve performance and meet future requirements**
- **AFSPC is committed to:**
  - Sustain Current Capabilities
  - Modernize GPS